

CLAIMS

1. A method of collecting a sample of material using a device having:
 - 5 (a) a ball housed within a socket where at least part of the external surface of the ball is capable of contact with the sample, and
 - (b) a chamber shaped at one end to form the socket and at the other end to form a sample collection reservoir;where the ball maintained in contact with the material whilst the device is moved with respect to the material, such that the resulting rotation of the ball causes the sample of the material to be transferred to the collection reservoir.
- 10 2. The method as claimed in claim 1 where the sample is a fluid or is suspended in a fluid.
3. The method as claimed in claim 2 where the fluid sample is transferred from the ball to the collection reservoir via an absorbent material housed within the collection reservoir and in contact the external surface of the ball.
- 20 4. The method as claimed in claim 3 where the absorbent material is a resin capable of deactivating nucleases.
5. The method as claimed in claim 3 where the absorbent material is an absorbent membrane or filter.
- 25 6. The method as claimed in claim 5 where the absorbent membrane is a metal chelating membrane.
- 30 7. The method as claimed in claim 1 where the sample adheres to the external surface of the ball.

8. The method as claimed in any one of the preceding claims including the step of applying moisture or fluid to the material prior to collecting the sample.
- 5 9. The method as claimed in any one of the preceding claims including the step of dissolving or suspending the sample in a fluid in the collection reservoir.
- 10 10. The method as claimed in any one of the preceding claims where the sample passes from the collection reservoir through an outlet.
11. The method as claimed in claim 10 where in the sample passes into one or more conduits connected to the outlet.
- 15 12. The method as claimed in any one of the preceding claims including the step of performing an analysis of the sample.
13. The method as claimed in claim 12 where the analysis is performed in the collection reservoir.
- 20 14. The method as claimed in claim 12 or claim 13 where the analysis is performed while the sample is adhered to the external surface of the ball.
- 25 15. The method as claimed in claim 12 where the analysis of the sample is performed in the location in the device that receives the sample when it passes from the collection reservoir.
- 30 16. The method as claimed in any one of claims 12 to 15 including the step of connecting the device to an analysis device for analysis of the sample.
17. The method as claimed in claim 16 where the analysis device is a heating and/or cooling device.

18. The method as claimed in claim 16 or claim 17 where the analysis device is a Thermocycler.
19. The method as claimed in any preceding claim where the surface of the ball is chemically modified to enhance the affinity for the sample.
20. A method as claimed in any preceding claim where the sample is a biological, organic or inorganic sample.
21. A method as claimed in claimed 20 where the sample is any one of a biological cell, a bacteria, a virus, a blood sample, a tissue sample, a plant sample, or an industrial waste sample.
22. A method as claimed in any preceding claim where the sample is analysed for any one of DNA, RNA, an antigen, a pathogen, a chemical contaminant, a trace element, or radioactivity.
23. A device for use in a method as claimed in any preceding claim.
24. A device for collecting a fluid sample including:
- (a) a ball housed within a socket where at least part of the external surface of the ball is capable of contact with the fluid,
 - (b) a chamber shaped at one end to form the socket and at the other end to form a sample collection reservoir,
 - (c) an absorbent material housed within the sample collection reservoir, where the external surface of the ball contacts the absorbent material.
25. A device as claimed in claim 24 further including an outlet to allow fluid to pass from the reservoir.
26. A device as claimed in claim 25 further including one or more sample conduits connected to the outlet.

27. A device as claimed in any one of claims 24 to 26 further including an analysis means for analysing the sample.

5 28. A device as claimed in any one of claims 24 to 27 where the device is adapted to be connected to an analysis device for analysis of the sample.

29. A device as claimed in any one of claims 24 to 28 where the device is adapted so that analysis of the sample can occur when the sample is in the collection reservoir.

10 30. A device as claimed in any one of claims 24 to 28 where the device is adapted so that analysis of the sample occurs at a location in the device that receives the sample when it passes from the reservoir.

15 31. A device as claimed in any one of claims 24 to 30 where the absorbent material is a resin capable of deactivating nucleases.

32. A device as claimed in any one of claims 24 to 30 where the absorbent material is an absorbent membrane or filter.

20 33. A device as claimed in claim 32 where the absorbent membrane is a metal chelating membrane.

25 34. A device as claimed in any one of claims 23 to 33 where the device is longitudinal with a substantially circular external wall cross-section and houses the ball, the socket, and the chamber.

35. A device as claimed in any one of claims 23 to 34 where the device includes a handle formed as a shaft connected to the collection reservoir.

30 36. A device as claimed in claim 35 where the handle is integrally formed with the socket.

37. A device as claimed in claim 35 where the socket may be mounted to the handle so that the handle is detachable.

5 38. A device as claimed in any one of claims 23 to 37 including a cap for each end of the device so that the device can be sealed both before and after collecting a sample.

10 38. A device as claimed in any one of claims 23 to 38 where the surface of the ball is textured or roughened to minimise slippage of the ball on a surface when in use.

40. A device as claimed in any one of claims 24 to 39 where the surface of the ball is chemically modified to enhance the affinity for the sample.

15 41. A device as claimed in any one of 23 to 40 including a temperature control means to heat or cool the sample once collected.

20 42. A device as claimed in any one of claims 23 to 41 where the device is constructed of a plastics material.